

Appl. No. 10/699,019
Amendment dated November 17, 2006
Reply to Office Action dated May 17, 2006

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REMARKS

Claims 1-33 are pending in this application. In the May 17, 2006 Office Action, the Examiner withdrew his previous rejections in view of Applicants' Amendment filed on March 3, 2006. The Examiner also stated that claims 31-33 are allowed over the prior art and that claims 8, 9, 15, 18, 19, 21, 23, 24 and 30 would be allowable if rewritten into independent form to include the limitations of its base claims. Applicant thanks the Examiner for his indication of allowable claims and subject matter.

However, the Examiner also applied new rejections to claims 1-7, 10-14, 16, 17, 20, 22 and 25-29.

The Examiner objected to claims 4, 6 and 26 as having insufficient antecedent basis for the limitation "the acted-upon link" in lines 1 or 2. Applicants point out that the objectionable language was intended to refer to the one of the first link and the second link in claim 3 or 25 that the leaf spring acts upon. Accordingly, Applicant has corrected this language to refer to "the link upon which the leaf spring acts", and Applicant requests that this objection be withdrawn.

In addition, the Examiner rejected claims 1-7, 10-14, 16, 17, 20, 22 and 25 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,499,189 (Kondo et al.). Applicants traverse this rejection. Kondo et al. describe a hinge apparatus (1 or 101) that is used to attach a cover B to a glass surface C of a photocopier A. Hinge apparatus 1 as shown in Figs. 1A-4C comprises a base member 7 for attachment to the body A of the photocopier, and an attachment member 9 for attachment to the cover B. An arm 4 rotatable about a single axis of pin 18 is coupled to base member 7, and two links 2,3 are coupled to arm 4 via pins 12-15. A spring 8 is attached at one end via pin 17 to base member 7 and at its second end via pin 19 to forward link 2.

Hinge apparatus 1 in Fig. 1A of Kondo et al. opens in a counterclockwise direction. As seen in Figs. 2A-D, a first option is to pull cover B and thus rotating attachment member 9 and links 2,3 around pins 14,15. Since links 2,3 define a parallelogram, cover B is raised in the

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direction of the arrow shown in Fig. 2A, thereby changing the distance to body A and glass plate C. Spring 8, which is designed as a compression spring, pulls hinge apparatus 1 back towards the closed position shown in Fig. 2B. As seen in Figs. 3A-C, an alternate movement is the pivoting around the axis of pin 18. There, links 2, 3 and base member 9 stay in their compact closed position and are pivoted together with arm 4, in the direction of the arrow in Fig. 3B. Here, too, spring 8 pulls hinge apparatus 1 back in the position shown in Fig. 3A.

When hinge apparatus 1 is swung due to a manipulation force exerted on the cover B past a dead point, spring member 8 will hold hinge apparatus 1 in the open condition. However, although two specific pivotal movements are possible, and two typical movements are intended to be achieved, there still remains a risk that an operator may pull cover B and accordingly dismember hinge apparatus 1 as shown in Figs. 4A-C, where spring member 8 is additionally stressed and exerts a pull force on forward link 2 back to the position shown in Fig. 3C.

Abutment 4a is provided to limit the pivotal movement of forward link 2 around pin 14.

Applicant notes that the hinge apparatus 101 referred to by the Examiner is slightly modified from the version in Figs. 1A-4C in order to achieve defined guiding of cover B responsive to its inclination and to the force acted thereon. Two additional elements in hinge apparatus 101 are (1) spring 131, which pre-stresses base member 109 in an open direction against the forward link 102, and (2) lock arm 105, which receives the whole pin 17, to which one end of spring member 8 is connected in a slide aperture 123 and which is connected to a distal portion of arm 104 by a pin received in an elongated slide aperture 124.

Attaching lock arm 105 to the base member 107 to which arm 104 is connected via pin 18 creates a kind of triangle between pins 18, 116 and 17. Such an assembly would not allow a rotation around pin 18 such that the elongated apertures 123, 124 create the necessary degree of liberty to be able to swing arm 104 around pin 18. It should be understood that the effects of spring 131 and of lock arm 105 are completely independent from each other. Lock arm 105 contributes to an increased resistance of the rotational movement of arm 104 around pin 18 such

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that the effect imparted by spring member 8 is mainly acted upon for link 102 and not upon arm 104. Depending upon the force of springs 131 and spring member 108, both of which act on forward link 102, and assuming that spring 131 has at least the same force than spring member 8, hinge assembly 101 will most of the time act to draw back link 102 from an open position, while base member 109 is urged towards an open position by spring 131.

Applicant contends that hinge apparatus 101 of Kondo et al. might make sense for a photocopier but is absolutely not suitable for an automotive hinge. Kondo et al. provides no defined pivotal movement that leads cover B back to its closed position. While this may not be a drawback for a photocopier, wherein some planar movement is not disadvantageous, in the case of a vehicle hinge, there is also a lock that must be met exactly in order to close the hood.

The Examiner rejects independent claim 1 as being anticipated by Kondo et al. as depicted in Fig. 5. However, notwithstanding the fact that cover B is not a vehicle flap (hood) and photocopier body C is not a vehicle body, Applicant points out that claim 1 requires that "one of the first link and the second link is to be arranged pivotably on a body of a vehicle and on a flap of a vehicle". To the contrary, however, links 102 and 103 of hinge apparatus 101 in Kondo et al. are both coupled to arm 4. If one would consider arm 4 not to pivot around pin 18, but to be a portion of the base member 7, one would also understand that lock arm 105 would have no further function.

Furthermore, spring 8 of Kondo et al., in a closed position of the flap, urges the flap in a closing direction, not in an opening direction as required by claims 1 and 20. Otherwise, the flap of the photocopier would always stand open. Concerning spring 131 which is asserted to the tension flap in the second opening phase of the flap, Applicant points out that spring 131 is permanently tensioning the flap, even in a closed position. Concerning the locking device compared to lock arm 105, Applicant points out that lock arm 105 indeed defines a kind of limitation of the complete arrangement and thus also for the spring 8, but not in its tensioned state.

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In rejecting independent claim 20 as being anticipated by Kondo et al, the Examiner refers to abutment 104a as the claim element "drive member tensioning the flap into an opening direction throughout the opening movement of the flap". However, abutment 104a seems to delimit the rotational angle of forward link 102, and Applicant does not see how abutment 104a might, in any way, be driving the hinge or tensioning the flap into an opening direction throughout the opening movement of the flap.

Accordingly, Applicant requests that this rejection of claims 1-7, 10-14, 16, 17, 20, 22 and 25-29 based upon Kondo et al. be withdrawn.

The Examiner also rejected 27-29 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,520,977 (Holzhauser et al.). Applicant traverses this rejection as well.

Holzhauser et al. teach hinges for coupling a document feeder to a copier, as seen, e.g., in Fig. 8. The document feeder 10 is attached to copier 12 using a mounting apparatus 14. As seen in Figs. 1-4, mounting member 28 is attached to frame member 24 and comprises two arms 30,32 that are not pivotable. Received between the two arms 30,32 is a second corner portion of a mounting bracket 36, thus defining a pivot 44. A first corner of bracket 36 is pivotably attached at 38 with a frame member 40 of the feeder 10. Fig. 1 shows that a rotational movement is possible at 38 between bracket 36 and feeder 10.

Holzhauser et al. further teach a counterbalancing apparatus, which includes a pair of tension springs 72, a first end of which is attached to frame member 40 of the feeder 10 at spring retainer 74 and a second end of which is attached at spring retainer 76. Tension springs 72 urge frame member 40 in a counter-clockwise pivotal direction, as shown in Figs. 1-3. A further spring unit comprises a first spring 82 and a second spring 84, each prestressing a piston 80 within a cylinder 78. A rod 90 has one end attached to piston 80 and the other end pivotably attached at 94 to bracket 36 so as to first help the feeder 10 to pivot upward supported by spring 82 and then to brake the movement of feeder 10 supported by spring 84. See the specification of Holzhauser et al. at column 5, line 31 column 6, line 13.

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Independent claim 27 is not anticipated by Holzhauser et al., which is quite different from the claimed invention. First, Holzhauser et al. do not teach a vehicle hinge, but rather a hinge assembly for a feeder of a copier, which as stated above is unrelated to a the flap (hood) of a vehicle. Second, the arms 30,32 of mounting member 28 in Holzhauser et al. are not a pivotable link, but rather are a bracket rigidly attached to the body of the copier. Even if one assumes that bracket 36 that is rotatable with respect to feeder 10 is a link, the second link as required by claim 27 is missing.

The Examiner states that spring 82 is the claimed first spring and pretensions the flap (feeder 10) in a closed position into an opening direction during a first opening movement phase. This means that the force difference between springs 82 and 84 urges piston 80 upward in a first opening phase. During this first opening phase, spring 82 becomes relaxed and spring 84 is compressed. However, past the equilibrium angle that corresponds to an opening angle of the flap of 65-70°, a second opening phase of the flap (feeder 10) starts, wherein the force difference between springs 82 and 84 would urge piston 80 downward in cylinder 80. Since the flap continues to pivot, piston 80 is pulled, thus compressing spring 84 and relaxing spring 82. Accordingly, there is no tensioning device for tensioning spring 82 back into its original starting condition, as claimed.

In addition, the Examiner seems to assert that during the initial pivotal movement of the flap at 38, from the position in Fig. 1 to the position of Fig. 2, spring 82 is being held immovable and thus remains compressed. Indeed, claim 27 mentions that "the first spring is pressed back into its starting position by a tensioning device". Of course, when there is no movement of the spring, then there is no pretensioning to open the flap, and there is further no pressing back.

Claim 27 claims the vehicle hinge wherein a spring imparts an initial movement to the flap during a first opening movement and is later compressed during a second opening movement. Such an arrangement offers the advantage that the spring will already have been compressed back into its starting condition during the opening movement such that, during the

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reverse closing movement, the spring will not oppose a force to the closing movement.
However, such a structure or advantage is in no way shown by Holzhauser et al.

Accordingly, Applicant requests that this rejection of claims 27-29 based upon
Holzhauser et al. be withdrawn.

Conclusion

Reconsideration of the present application, as amended, is requested. If, upon review, the Examiner is unable to issue an immediate Notice of Allowance, the Examiner is respectfully requested to telephone Applicant's undersigned attorney in order to resolve any outstanding issues and advance the prosecution of the case.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,
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